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# BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/530,613
Filing Date: April 07, 2005
Appellant(s): LIETZAU, KLAUS

Clifford A Ulrich
For Appellant

# EXAMINER'S ANSWER

This is in response to the appeal brief filed 28 July 2010 appealing from the Office action mailed 12 March 2010.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 1-20 have been cancelled.

Claims 21-36 are pending.

Claims 21-24, 27-29 and 32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,171,055 (hereinafter Vos) in view of Applicant's Admitted Prior Art.

Claims 25, 26, 30 and 31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of U.S. Patent No. 5,951,608 (hereinafter Osder).

Claims 33 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of U.S. Patent No. 6,856,039 (hereinafter Mikhail).

Claims 34-36 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of Mikhail and Osder.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

| | | |
|---|---|---|
| 5,403,074 | Van Zanten et al. | 08-1992 |
| 5,951,608 | Osder | 12-1995 |
| 6,171,055 | Vos et al. | 04-1993 |
| 6,856,039 | Mikhail et al. | 08-1997 |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 21-24, 27-29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,171,055 (hereinafter Vos) in view of Applicant's Admitted Prior Art.

2. Claims 25, 26, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of U.S. Patent No. 5,951,608 (hereinafter Osder).

3. Claims 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of U.S. Patent No. 6,856,039 (hereinafter Mikhail).

4. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of Mikhail and Osder.

Claims 21-24, 27-29 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,171,055 (hereinafter Vos) in view of Applicant's Admitted Prior Art.

As per claim 21, Vos teaches a multivalue control system, comprising:

a controlled multivalue system (col. 5, lines 24-29 and Fig. 1) including a plurality of correcting variables as input variables (col. 6, lines 1-8 and 13-19) and a plurality of controlled variables as output variables (col. 5, lines 65-67);

a plurality of controllers (col. 7, lines 2-8 and 10-15 and Fig. 2, element 66 and 68); and

a plurality of comparators (Fig. 2) configured to ascertain control deviations and to supply a control deviation to each controller as an input variable (col. 7, lines 2-15).

However, Vos does not expressly teach to a conversion device, input variables of the conversion device corresponding to output variables of the controllers, the conversion device configured to calculate, at least from the output variables of the controllers, the correcting variables, the conversion device configured to superimpose, on the output variables of the controllers (See Vos: col. 7, lines 2-8 and 10-15), an input control component that is a function of an actual value to calculate the correcting variables (see Vos: col. 6, lines 1-8 and 13-19).

Therefore, it would have been known to those of at least ordinary skill in the field of multivalue/multivariable control systems to have used the tools at hand,

specifically a conversion device, input variables of the conversion device corresponding to output variables of the controllers, the conversion device configured to calculate, at least from the output variables of the controllers, the correcting variables, the conversion device configured to superimpose, on the output variables of the controllers, an input control component that is a function of an actual value to calculate the correcting variables, since at the time of Applicant's invention was shown to be known in the art wherein a controlled multivalue system having several correcting variables as input variables and several controlled variables as output variables, having several comparators for ascertaining control deviations, having several controllers, to each controller one control deviation being able to be supplied as input variable, and having a conversion device whose input variables are the output variables made available by the controllers, the conversion device calculating the correcting variables for the controlled multivalue system at least from the output variables of the controllers (pg. 1, par. [0009]), as taught by Non-Patent Literature "Inverted Decoupling: A Neglected Technique" and in U.S. Patent No. 5,403,074 which has been cited in the Summary section of Applicant's Disclosure, to provide enhanced stability of the control system.

As per claim 22, Vos teaches as set forth above the conversion device is configured to calculate the correcting values by an offset of the output variables of the controllers against each other (col. 7, lines 24-37; i.e. the curves of thrust and thrust efficiency).

As per claim 23, Vos teaches as set forth above the conversion device is configured to offset the output variables of the controllers as a function of the controlled multivalue system (col. 7, lines 24-37; i.e. the curves of thrust and thrust efficiency).

As per claim 24, Vos teaches as set forth above a first controlled variable conversion device (Fig. 1, element 30), the controlled variables arranged to be supplied to the first controlled variable conversion device as input variables (col. 6, lines 1-8 and 13-19), the first controlled variable conversion device configured to ascertain output variables from the controlled variables and to supply the output variables to the comparators (Fig. 2) as first input variables (col. 7, lines 2-8).

As per claim 27, Vos teaches a method for controlling a controlled multivalue system, comprising:

supplying a plurality of correcting variables to the controlled multivalue system (col. 5, lines 24-29 and Fig. 1) as input variables (col. 7, lines 24-37; i.e. the curves of thrust and thrust efficiency);

offsetting a plurality of controlled variables against one another as output variables of the controlled multivalue system to ascertain control deviations (col. 7, lines 2-15);

supplying each control deviation to a respective controller (Fig. 2, element 66 and 68) as an input variable (col. 7, lines 2-15);

supplying output variables from the controllers as input variables (col. 6, lines 1-8 and 13-19); and

calculating the correcting variables at least from the output variables from the controllers (col. 6, lines 1-8 and 13-19 and col. 7, lines 2-15), the calculating including offsetting the output variables of the controllers against each other using an input control component that is a function of an actual value (col. 6, lines 1-8 and 13-19 and col. 7, lines 2-15).

However, Vos does not expressly teach supplying output variables from the controllers to a conversion device as input variables (col. 6, lines 1-8 and 13-19); and calculating the correcting variables in the conversion device at least from the output variables from the controllers (col. 6, lines 1-8 and 13-19 and col. 7, lines 2-15), the calculating including offsetting the output variables of the controllers against each other using an input control component that is a function of an actual value (col. 6, lines 1-8 and 13-19 and col. 7, lines 2-15).

Therefore, it would have been known to those of at least ordinary skill in the field of multivalue/multivariable control systems to have used the tools at hand, specifically supplying output variables from the controllers to a conversion device as input variables; and calculating the correcting variables in the conversion device at least

from the output variables from the controllers, the calculating including offsetting the output variables of the controllers against each other using an input control component that is a function of an actual value, since at the time of Applicant's invention was shown to be known in the art wherein a controlled multivalue system having several correcting variables as input variables and several controlled variables as output variables, having several comparators for ascertaining control deviations, having several controllers, to each controller one control deviation being able to be supplied as input variable, and having a conversion device whose input variables are the output variables made available by the controllers, the conversion device calculating the correcting variables for the controlled multivalue system at least from the output variables of the controllers (pg. 1, par. [0009]), as taught by Non-Patent Literature "Inverted Decoupling: A Neglected Technique" and in U.S. Patent No. 5,403,074 which has been cited in the Summary section of Applicant's Disclosure, to provide enhanced stability of the control system.

As per claim 28, Vos teaches as set forth above ascertaining the correcting variables in accordance with the offsetting of the output variables of the controllers against each other (col. 7, lines 24-37; i.e. the curves of thrust and thrust efficiency).

As per claim 29, Vos teaches as set forth above supplying the controlled variables of the controlled multivalue system to a first controlled variable conversion device as input variables (col. 6, lines 1-8 and 13-19 and col. 7, lines 2-8);

ascertaining output variables by the first controlled variable conversion device from the controlled variables (col. 7, lines 2-8); and

supplying the output variables ascertained by the first controlled variable conversion device to comparators as first input variables (col. 7, lines 2-8).

As per claim 32, Vos teaches a method for controlling a propeller power unit, comprising:

controlling a propeller speed and a propeller performance as controlled variables (col. 5, lines 65-67 and col. 6, lines 13-24);

supplying a propeller blade angle of incidence (i.e. the curves of the map are characterized by a function of pitch angle) and a fuel stream (the curves of the map are characterized by a function of fuel consumption) to the propeller power unit as correcting variables (col. 7, lines 24-30);

supplying output variables from controllers as input variables (col. 6, lines 6-8);

ascertaining the propeller blade angle of incidence (i.e. the curves of the map are characterized by a function of pitch angle) and the fuel stream (the curves of the map are characterized by a function of fuel consumption) as the controlled variables from the output variables from the controllers (col. 6, lines 6-8 and col. 7, lines 2-15) ;

offsetting the output variables from the controllers against each other (col. 7, lines 15-19); and

offsetting the output variables from the controllers using an input control component that is a function of an actual value (col. 6, lines 6-8 and col. 7, lines 2-19).

However, Vos does not expressly teach supplying output variables from controllers to a conversion device as input variables (col. 6, lines 6-8); ascertaining, by the conversion device, the propeller blade angle of incidence (i.e. the curves of the map are characterized by a function of pitch angle) and the fuel stream (the curves of the map are characterized by a function of fuel consumption) as the controlled variables from the output variables from the controllers (col. 6, lines 6-8 and col. 7, lines 2-15) ;

offsetting, in the conversion device, the output variables from the controllers against each other (col. 7, lines 15-19); and

offsetting, in the conversion device, the output variables from the controllers using an input control component that is a function of an actual value (col. 6, lines 6-8 and col. 7, lines 2-19).

Therefore, it would have been known to those of at least ordinary skill in the field of multivalue/multivariable control systems to have used the tools at hand, specifically supplying output variables from controllers to a conversion device as input variables; ascertaining, by the conversion device, the propeller blade angle of incidence and the fuel stream as the controlled variables from the output variables from the

controllers; offsetting, in the conversion device, the output variables from the controllers against each other; and offsetting, in the conversion device, the output variables from the controllers using an input control component that is a function of an actual value, since at the time of Applicant's invention was shown to be known in the art wherein a controlled multivalue system having several correcting variables as input variables and several controlled variables as output variables, having several comparators for ascertaining control deviations, having several controllers, to each controller one control deviation being able to be supplied as input variable, and having a conversion device whose input variables are the output variables made available by the controllers, the conversion device calculating the correcting variables for the controlled multivalue system at least from the output variables of the controllers (pg. 1, par. [0009]), as taught by Non-Patent Literature "Inverted Decoupling: A Neglected Technique" and in U.S. Patent No. 5,403,074 which has been cited in the Summary section of Applicant's Disclosure, to provide enhanced stability of the control system.

Claims 25, 26, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of U.S. Patent No. 5,951,608 (hereinafter Osder).

As per claim 25, Vos does not expressly teach a second controlled variable conversion device, setpoint values of the controlled variables configured to be supplied to the second controlled variable conversion device as input variables, the second

controlled variable conversion device configured to ascertain output values from the setpoint values and to supply the output values to the comparators as second input variables.

However, Osder teaches a second controlled variable conversion device (Fig. 6, element 524), setpoint values (Fig. 6, element 522) of the controlled variables configured to be supplied to the second controlled variable conversion device as input variables (col. 10, lines 48-59), the second controlled variable conversion device configured to ascertain output values from the setpoint values and to supply the output values to the comparators (Fig. 6, element 520) as second input variables (col. 10, lines 40-47 and col. 11, lines 4-10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include a second controlled variable conversion device, setpoint values of the controlled variables configured to be supplied to the second controlled variable conversion device as input variables, the second controlled variable conversion device configured to ascertain output values from the setpoint values and to supply the output values to the comparators as second input variables to avoid entering autogyro states, and not requiring flight path changes, such as dives, to enter a conversion regime where the rotor is stopped (col. 2, lines 2-6).

As per claim 26, Vos does not expressly teach the comparators are configured to offset the first input variables against corresponding second input variables and to supply control deviations resulting from the offset to the controllers as input variables.

However, Osder teaches the comparators (Fig. 6, element 520) are configured to offset the first input variables (col. 10, lines 40-45) against corresponding second input variables and to supply control deviations resulting from the offset to the controllers as input variables (col. 11, lines 4-10 and 32-35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include the comparators are configured to offset the first input variables against corresponding second input variables and to supply control deviations resulting from the offset to the controllers as input variables to avoid entering autogyro states, and not requiring flight path changes, such as dives, to enter a conversion regime where the rotor is stopped (col. 2, lines 2-6).

As per claim 30, Vos does not expressly teach supplying setpoint values of the controlled variables to a second controlled variable conversion device as input variables; ascertaining output variables by the second controlled variable conversion device from the setpoint values; and supplying the output variables ascertained by the

second controlled variable conversion device to the comparators as second input variables.

However, Osder teaches supplying setpoint values (Fig. 6, element 522) of the controlled variables to a second controlled variable conversion device (Fig. 6, element 524) as input variables (col. 10, lines 48-59); ascertaining output variables by the second controlled variable conversion device from the setpoint values (col. 10, lines 40-59); and supplying the output variables ascertained by the second controlled variable conversion device to the comparators (Fig. 6, element 520) as second input variables (col. 10, lines 40-47 and col. 11, lines 4-10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include supplying setpoint values of the controlled variables to a second controlled variable conversion device as input variables; ascertaining output variables by the second controlled variable conversion device from the setpoint values; and supplying the output variables ascertained by the second controlled variable conversion device to the comparators as second input variables to avoid entering autogyro states, and not requiring flight path changes, such as dives, to enter a conversion regime where the rotor is stopped (col. 2, lines 2-6).

As per claim 31, Vos does not expressly teach offsetting the first input variables of the comparators and corresponding second input variables of the comparators against each other; and supplying control deviations resulting from the offsetting of the first input variables of the comparators and the corresponding second input variables of the comparators to the controllers as input variables.

However, Osder teaches offsetting the first input variables of the comparators (Fig. 6, element 520) and corresponding second input variables of the comparators against each other (col. 10, lines 40-45); and supplying control deviations resulting from the offsetting of the first input variables of the comparators and the corresponding second input variables of the comparators to the controllers as input variables (col. 11, lines 4-10 and 32-35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include the first input variables of the comparators and corresponding second input variables of the comparators against each other; and supplying control deviations resulting from the offsetting of the first input variables of the comparators and the corresponding second input variables of the comparators to the controllers as input variables to avoid entering autogyro states, and not requiring flight path changes, such as dives, to enter a conversion regime where the rotor is stopped (col. 2, lines 2-6).

Claims 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of U.S. Patent No. 6,856,039 (hereinafter Mikhail).

As per claim 33, Vos teaches supplying the propeller speed and the propeller performance (col. 5, lines 65-67 and col. 6, lines 13-24) as the correcting variables of the propeller power unit to a first controlled variable conversion device as input variables (col. 7, lines 24-30); and

outputting, by the first controlled variable conversion device, as output variables, actual values (col. 6, lines 6-8 and col. 7, lines 2-19).

Vos does not expressly teach output variables actual variables for the propeller speed and a turbine output.

However, Mikhail teaches output variables actual variables for the propeller speed and a turbine output (col. 5, lines 45-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include output variables actual variables for the propeller speed and a turbine output to provide maximal energy capture, torque control, elimination of voltage flicker, as well as power factor control (col. 20, lines 10-13).

Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vos in view of Applicant's Admitted Prior Art in further view of Mikhail and Osder.

As per claim 34, Vos does not expressly teach supplying setpoint values for the propeller speed and the propeller performance to a second controlled variable conversion device as input variables; and outputting, by the second controlled variable conversion device, setpoint values for the propeller speed and the turbine output.

However, Mikhail teaches supplying setpoint values for the propeller speed (col. 7, lines 51-53 and col. 8, lines 47-54 and 66-67) and the propeller performance (col. 5, lines 24-44, col. 11, lines 61-67 and col. 12, lines 1-3).

Mikhail does not expressly teach supplying setpoint values to a second controlled variable conversion device as input variables; and outputting, by the second controlled variable conversion device, setpoint values for the output.

However, Osder teaches supplying setpoint values (Fig. 6, element 522) to a second controlled variable conversion device (Fig. 6, element 524) as input variables (col. 10, lines 48-59); and outputting, by the second controlled variable conversion device, setpoint values for the output (col. 10, lines 40-59).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include supplying setpoint values for the propeller speed and the propeller performance to provide

maximal energy capture, torque control, elimination of voltage flicker, as well as power factor control (Mikhail: col. 20, lines 10-13); and supplying setpoint values to a second controlled variable conversion device as input variables; and outputting, by the second controlled variable conversion device, setpoint values for the output to avoid entering autogyro states, and not requiring flight path changes, such as dives, to enter a conversion regime where the rotor is stopped (Osder: col. 2, lines 2-6).

As per claim 35, Vos does not expressly teach ascertaining corresponding control deviations from the actual values and corresponding setpoint values for the propeller speed and the turbine output; supplying the propeller speed control deviation to a speed controller; and supplying the turbine output control deviation to a power controller.

However, Mikhail teaches ascertaining corresponding control deviations from the actual values and corresponding setpoint values for the propeller speed (col. 7, lines 51-53 and col. 8, lines 47-54 and 66-67) and the turbine output (col. 5, lines 24-44, col. 11, lines 61-67 and col. 12, lines 1-3); supplying the propeller speed control deviation to a speed controller (col. 7, lines 51-53 and col. 8, lines 47-54 and 66-67); and supplying the turbine output control deviation to a power controller (col. 5, lines 24-44, col. 11, lines 61-67 and col. 12, lines 1-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include ascertaining corresponding control deviations from the actual values and corresponding setpoint values for the propeller speed and the turbine output; supplying the propeller speed control deviation to a speed controller; and supplying the turbine output control deviation to a power controller to provide maximal energy capture, torque control, elimination of voltage flicker, as well as power factor control (col. 20, lines 10-13).

As per claim 36, Vos teaches wherein the propeller blade angle of incidence and the fuel stream are ascertained in the propeller blade angle of incidence (i.e. the curves of the map are characterized by a function of pitch angle) and the fuel stream (the curves of the map are characterized by a function of fuel consumption) ascertaining step in the conversion device (col. 6, lines 6-8 and col. 7, lines 2-15).

However, Vos does not expressly teach outputting a torque request as an output variable by the speed controller; and outputting a turbine output request as an output variable by the power controller; wherein the propeller blade angle of incidence and the fuel stream are ascertained in the propeller blade angle of incidence and the fuel stream ascertaining step in the conversion device from the torque request and the turbine output request.

However, Mikhail teaches outputting a torque request as an output variable by the speed controller (col. 7, lines 51-53 and col. 8, lines 47-54 and 66-67); and

outputting a turbine output request as an output variable by the power controller (col. 5, lines 24-44, col. 11, lines 61-67 and col. 12, lines 1-3);

wherein the parameters are ascertained in the parameter ascertaining step in the conversion device from the torque request (col. 7, lines 51-53 and col. 8, lines 47-54 and 66-67) and the turbine output request (col. 5, lines 24-44, col. 11, lines 61-67 and col. 12, lines 1-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Vos to include outputting a torque request as an output variable by the speed controller; and outputting a turbine output request as an output variable by the power controller; wherein the parameters are ascertained in the parameter ascertaining step in the conversion device from the torque request and the turbine output request to provide maximal energy capture, torque control, elimination of voltage flicker, as well as power factor control (col. 20, lines 10-13).

**(10) Response to Argument**

Appellant's arguments (regarding Arguments, pgs. 4-9 of Appeal Brief), filed on 28 July 2010, have been fully considered but they are not persuasive.

**1. Rejection of Claims 21 to 24, 27 to 29, and 32 Under 35 U.S.C 103(a)**

a) In response to Appellant's arguments that the prior art fails to teach, "a conversion device configured to superimpose, on the output variables of the controllers, an input control component that is a function of an actual value to calculate the correcting values." as recited in claim 21 (see Arguments, pg. 5, paragraph 4 – pg. 6, paragraph 1). The Examiner respectfully disagrees.

The Appellant's Specification (U.S. Patent Publication No. 2006/0004470) makes reference to U.S. Patent No. 5,403,074 (hereinafter Van Zanten) on pg. 1, paragraph [0009] (recited below for convenience) as teaching a conversion device configured with the functionality of superimposing. Furthermore, the Appellant has not provided a clear definition of term "superimpose" in the specification but has defined the term "superimpose" in the context of claims 27 and 32 in the use of "offsetting" (see Remarks pg. 6, paragraph 4; "...a conversion device configured to superimpose, on the output variables of the controllers, an input control component that is a function of an actual value to calculate the correcting variables, as provided for in the context of claims 21, 27, and 32.") in light of the limitations "calculating the correcting variables in the conversion device at least from the output variables from the controllers, the calculating including offsetting the output variables of the controllers against each other using an input control component that is a function of an actual value" (claim 27) and "offsetting, in the conversion device, the output variables from the controllers against

each other; and offsetting, in the conversion device, the output variables from the controllers using an input control component that is a function of an actual value" (claim 32). Thus, the Examiner asserts the term "superimpose" to mean "offset(ting)" consistent with Appellant meaning of the term.

It is uncontested that (see Specification Paragraph [0009] that :

> The article by Harold L. Wade, entitled "Inverted Decoupling: A Neglected Technique," Advances in Instrumentation and Control, Instrument Society of America, Vol. 51, pp. 357 to 369 (1996), and in U.S. Pat. No. 5,403,074, a controlled multivalue system having a controlled multivalue system is described, the controlled multivalue system having several correcting variables as input variables and several controlled variables as output variables, having several comparators for ascertaining control deviations, having several controllers, to each controller one control deviation being able to be supplied as input variable, and having a conversion device whose input variables are the output variables made available by the controllers, the conversion device calculating the correcting variables for the controlled multivalue system at least from the output variables of the controllers. In the article by Axel Graeser, entitled "Cross-Profile Control in the Paper Industry--Sensors and Actuators as Determining Elements of the Control Quality," Automatisierungstechnik (Automation Technology), Oldenbourg Verlag, Vol. 45, pp. 271 to 281 (1997), a control method is described that has decoupling of the individual loops and a compensation of the system or path coupling. (Applicant's Specification of U.S. Patent Publication No. 2006/0004470, pg. 1, paragraph [0009])

> Furthermore, Van Zanten teaches "If both wheels are controlled about working points having the same gradient of the .mu.-slip curve (FIG. 5), the transformed controlled variables are decoupled. The sum (.omega..sub.1 +.omega..sub.2) of the rotational speeds is formed in an adder 14 (=2.times.rotational speed of the cardan shaft). From this sum, the divider 15 forms the rotational speed of the cardan shaft, so that (.omega..sub.1 +.omega..sub.2)/2 can also be measured directly at the cardan shaft. Next in sequence is an individual wheel controller 16 (comparable to a select-low controller in a 3-channel ABS), which preferably, as an output variable 1, transmits signals corresponding to braking torques.

> A subtractor 17 generates the difference (.omega..sub.1 - .omega..sub.2), which is likewise halved in the divider block 18 and fed to a controller 19, which can be a PI controller, but can also further take account of dead times and the like. **The outputs of the controllers 16 and 19 are fed to an adder 20 and to a subtractor 21. The output signals from the units 21 and 22 are fed to an amplifier 22 with the gain C.sub.n which effects a limitation of the manipulated variable (see above for mode of operation). The output signals of the amplifier 22 are once again valve opening times u.sub.1 and u.sub.2. The latter act on respective actuators 23 and 24 (valves for the two wheel brakes), and vary the brake pressures and thus the braking torques M.sub.B1 or M.sub.B2.** As a result, the rotational wheel speeds .omega..sub.1 and .omega..sub.2 are changed via the controlled system (block 25); the sensors contained in block 25 measure the new rotational speeds" (col. 4, lines 61-68 - col. 5, lines 1-21). (Emphasis added)

In summary, Van Zanten teaches Appellant's claimed limitation of, "a conversion device (Fig. 7, element 20 and 21) configured to superimpose, on the output variables of the controllers (Fig. 7, element 16 and 19), an input control component (i.e. output variable of Fig. 7, element 16 is used as an input control component for Fig. 7, element 21, and output variable of Fig. 7, element 19 is used as an input control component for Fig. 7, element 20) that is a function of an actual value (i.e. output variables of the controllers (Fig. 7, element 16 and 19)) to calculate the correcting variables (the outputs of signals from Fig. 7, element 20 and 21 are fed into Fig. 7, element 22)."

Hence, the definition "superimpose" provide in the context of claims 27 and 32 as "offsetting", is met by the disclosure of Van Zanten as set forth above (thus providing support the AAPA does teach the limitation of superimpose as intended by

Appellant); and the rejection of independent claims 21, 27 and 32, and dependent claims 22-26, 28-31 and 33-36 stand rejected as set forth in the Final Office Action mailed on 12 March 2010. Thus, the rejection should be sustained.

**2. Rejection of Claims 25, 26, 30, and 31 Under 35 U.S.C 103(a)**

a) In response to Appellant's arguments, "Claims 25 and 26 ultimately depend from claim 21, and claims 30 and 31 ultimately depend from claim 27. As more fully set forth above, the combination of Vos et al. and the Alleged APA does not disclose, or even suggest, all of the features included in claims 21 and 27. Osder also does not disclose, or even suggest, all of the features included in claims 21 and 27, and thus, fails to cure this critical deficiency." (see Brief, pg. 7 paragraph 6) The Examiner respectfully disagrees, and emphasizes Appellant's Specification (U.S. Patent Publication No. 2006/0004470) which refers to U.S. Patent No. 5,403,074 (hereinafter Van Zanten) on pg. 1, paragraph [0009] to teaching a conversion device, recited below for convenience.

The Examiner refers to the above response, pgs. 21-24, "Rejection of Claims 21 to 24, 27 to 29, and 32 Under 35 U.S.C 103(a), section a." of this Examiner's Answer, and the argument herein as addressed.

**3. Rejection of Claim 33 Under 35 U.S.C 103(a)**

a) In response to Appellant's arguments, "Claim 33 depends from claim 32. As more fully set forth above, the combination of Vos et al. and the Alleged APA does not disclose, or even suggest, all of the features included in claim 32. Mikhail et al. also does not disclose, or even suggest, all of the features included in claim 32, and thus, fails to cure this critical deficiency." (see Brief, pg. 8 paragraph 4) The Examiner respectfully disagrees, and emphasizes Appellant's Specification (U.S. Patent Publication No. 2006/0004470) which refers to U.S. Patent No. 5,403,074 (hereinafter Van Zanten) on pg. 1, paragraph [0009] to teaching a conversion device, recited below for convenience.

The Examiner refers to the above response, pgs. 21-24, "Rejection of Claims 21 to 24, 27 to 29, and 32 Under 35 U.S.C 103(a), section a." of this Examiner's Answer, and the argument herein as addressed.

**4. <u>Rejection of Claim 34-36 Under 35 U.S.C 103(a)</u>**

a) In response to Appellant's arguments, "Claims 34 to 36 ultimately depend from claim 32. As more fully set forth above, the combination of Vos et al. and the Alleged APA does not disclose, or even suggest, all of the features included in claim 32. Also, as more fully set forth above, Mikhail et al. and Osder also do not disclose, or even suggest, all of the features included in claim 32, and thus, fail to cure this critical deficiency." (see Brief, pg. 8 paragraph 8) The Examiner respectfully disagrees, and emphasizes Appellant's Specification (U.S. Patent Publication No. 2006/0004470) which

refers to U.S. Patent No. 5,403,074 (hereinafter Van Zanten) on pg. 1, paragraph [0009] to teaching a conversion device, recited below for convenience.

The Examiner refers to the above response, pgs. 21-24, "Rejection of Claims 21 to 24, 27 to 29, and 32 Under 35 U.S.C 103(a), section a." of this Examiner's Answer, and the argument herein as addressed.

Hence the rejection of independent claims 32 and dependent claims 34-36 stand rejected as set forth in the Final Office Action mailed on 12 March 2010.

**(11) Evidence Appendix**

The Appellant has not submitted any evidence.

**(12) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jennifer L. Norton/
Art Unit 2121

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